IVANOV, V.N.; BARANOV, A.V.

The technological properties of parts made by means of precision casting. Avt. i trakt. prom. no.2:34-39 F '56. (MLRA 9:6)

(Precision casting)

IVANOV, V.N., inzhener.

Cleaning precision castings. Lit.proizv. no.7:5-8 Jl '56.
(Precision casting) (MLRA 9:9)

VIGDORCHIK, D.Ya.; DRUSKIN, L.I.; IVANOV, V.N.; STROGAL'SHCHIKOVA, L.B.

Conversion of VNIISTO small cast-iron household heating boilers to gas fuel. Gaz.prom.no.9:17-22 S '56. (MIRA 9:10)
(Gas as fuel) (Boilers)

25(1) PHASE I BOOK EXPLOITATION SOV/2832

Ivanov, Vladimir Nikolayevich

Brak i defekty v lit'ye po vyplavlyayemym modelyam (Rejects and Defects in Investment Casting) Moscow, Mashgiz, 1959. 71 p. 4,300 copies printed.

Reviewer: V.A. Ozerov, Candidate of Technical Sciences; Ed.: Yu.V. Beyyer, Engineer; Managing Ed. for Literature on Heavy Machinery Manufacture (Mashgiz), S.Ya. Golovin, Engineer; Ed. of Publishing House: G.M. Grushevskaya; Tech. Ed.: G.V. Smirnova.

PURPOSE: This book is intended for technical personnel, foremen, OTK workers, and workers engaged in investment casting.

COVERAGE: This book is based on practices of the Department of Precision Casting, Moskovskiy zavod imeni I.A. Likhacheva (Moscow Plant imeni I.A. Likhachev). The book contains a classification of defects and rejects occurring in investment casting. Causes and means of prevention are described. According to the author, the book constitutes a basis for terminology and classification in the field of investment casting and may serve as a guide for detection, prevention, and correction of defects. No personalities are mentioned. There are 9 references all Soviet.

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TABLE OF CONTENTS:

IVANOV, Valentin Nikolayevich; BAZILEV, N.P., red.; GARMASH, L.M., otv. za vypusk; SUKHAREVA, R.A., tekhn.red.

[High precision casting in removable ceramic molds] Lit'e povyshennoi tochnosti v raz"emnye keramicheskie formy. Moskva, 1959. 57 p. (Moskovskii dom nauchno-tekhnicheskoi propagandy. Peredovoi opyt proizvodstva. Seriia: Progressivnaia tekhnologiia mashinostroeniia, vyp. 6). (MIRA 13:9)
(Precision casting)

PHASE I BOOK EXPLOITATION SOV/3554

Ivanov, Valentin Nikolayevich; and Nikolay Mikhaylovich Osokin

Mekhanizatsiya lit'ya po vyplavlyayemym modelyam (Mechanization of Investment Casting) Moscow, Mashgiz, 1959. 207 p. 6,500 copies printed.

Reviewer: Ya.I. Shklennik, Candidate of Technical Sciences; Ed.: M.A. Snopkov, Engineer; Ed. of Publishing House: O.V. Chernyak, Engineer; Tech. Ed.: G.Ye. Sorokina; Managing Ed. for Literature on Heavy Machine Building (Mashgiz): S.Ya. Golovin, Engineer.

PURPOSE: This book is intended for technical personnel and designers working in the field of investment casting.

COVERAGE: The book deals with various aspects of the mechanization and partial automation of the technological processes of investment casting. Instruments and other equipment currently used in this field are described. Planning of shops and placement of equipment are discussed. Some attention is also given to safety

Card 1/5

Mechanization of Investment (Cont.) SOV/3554

techniques and improvement of working conditions. There are 34 references: 31 Soviet, and 3 English.

TABLE OF CONTENTS:

Card 2/5

SERGEYEV, D.Ye., master; FADEYEV, V.M., master; IVANOV, V.N., master; GOMZA, M.S., master

"Design and regulation of Cotton machines" by N.I.Malysheva, A.V.Baryshnikov, N.I.Kosenkov. Reviewed by D.E.Sergeev and others. Tekst.prom. 20 no.6:78-81 Je '60. (MIRA 13:7)

1. Leningradskaya trikotazhnaya fabrika "Krasnoye Znamya." (Knitting machines)
(Malysheva, N.I.) (Baryshnikov, A.V.) (Kosenkov, N.I.)

PHASE I BOOK EXPLOITATION SOV/5976

Shklennik, Ya. I., A. V. Baranov, V. N. Ivanov, S. A. Kazennov, B. S. Kurchman, N. N. Lyashchenko, R. A. Marulidi, G. K. Militsin, V. A. Ozerov, A. I. Sitnichenko, M. Ya. Telis, and M. L. Khenkin

Lit'ye po vyplavlyayemym modelyam (Investment Casting) [Leningrad] Mashgiz [1961] 455 p. (Series: Inzhenernyye monografii po liteynomu proizvodstvu) Errata slip inserted. 8000 copies printed.

Eds. (Title page): Ya. I. Shklennik and V. A. Ozerova; Reviewers: N. D. Titov, Candidate of Technical Sciences, and A. I. Klauzen, Engineer; Ed.: Yu. L. Markiz, Engineer; Tech. Eds.: A. Ya. Tikhanov, Z. I. Chernova and V. D. El'kind; Managing Ed. for Literature on Hot-Working of Metals: S. Ya. Golovin, Engineer.

PURPOSE: This book is intended for engineering and technical personnel in the metalworking industry and for scientific research workers. It may also be used by students specializing in foundry work.

COVERAGE: The book reviews the most important problems in investment casting. Among the topics considered are the following: mechanical properties of castings;

Card 1/[redacted]

the manufacture of castings; precision surface quality; materials and methods of making patterns and molds; the melting of metals and alloys; pouring, cleaning, heat treatment, and inspection of castings; economic aspects in the production of castings; organization of production; and modern concepts relating to processes taking place in the manufacture of investment castings. No personalities are mentioned. There are 180 references, mostly Soviet.

TABLE OF CONTENTS:

22696
S/128/61/000/003/006/008
A054/A127

18 8300

AUTHORS: Ivanov, V. N., and Baranov, A. V.

TITLE: Scale formation and decarburization of investment castings

PERIODICAL: Liteynoye proizvodstvo, no. 3, 1961, 19 - 21

TEXT: One of the advantages of investment casting is the high accuracy and smooth surface of the products. Another feature of this method is that the metal is poured in a glowing mold and cooled down slowly. During this cooling, the surface of the casting oxidizes and the metal is decarburized. The surface layer formed during this process, consists of pure ferrite and has only a small carbon content affecting the mechanical properties of the casting: the tendency to form cracks during hardening, increases, the resistance against contact loads and the lower aging limit decreases. The tests carried out at the Avtozavod im. I. A. Likhacheva (Autofactory im. I. A. Likhachev), based on the studies of O. V. Stupishina, (Liteynoye proizvodstvo, 1959, no. 5) revealed that the main cause of oxidation and decarburization of the metal is the reaction between the metal-components and ambient gases, i. e. air. In the lower part of the mold the

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Scale formation and decarburization of...

castings are oxidized and decarburized to a smaller extent, than in the upper part, where air can enter more freely. The oxidation of the metal results in scaleformation (containing various iron oxides). The diffusion of oxygen from the air slows down and the metal temperature decreases at the same rate as the increase in scale formation. The scale layer can become twice as thick as the oxidies metal. Simultaneously with oxidation, i. e. scale formation the decarburization of the metal takes place, which is a reversed diffusion involving decarburizing gases and ferrous carbide. Decarburization depends on the temperature of the mold and the metal and on the carbon content of the latter, (Table 1). In order to reduce oxidation and decarburization in investment castings, mainly three methods are recommended: 1) establishing a neutral or a slightly reducing atmosphere around the metal during pouring and cooling; 2) lowering the temperature during pouring and the temperature of the mold; 3) accelerated cooling of castings. 1) The suitable atmosphere in the mold can be obtained by introducing spent or fresh carburizing agents into the dry filling; they usually contain carbon-sodium or pulverous coal and saw dust. However, it is very difficult to find the most suitable carburizing agents. In literature several kinds of

Scale formation and decarburization of...

carburizing agents are recommended, in quantities of 3 - 15%. In spite of these difficulties, the creation of a protective atmosphere in the mold by introducing a carburizing agent so far seems the most efficient measure against oxidation and decarburization of the casting. When carborundum or boron oxide molds are used for casting, no decarburized layer can be observed, as those materials themselves develop an atmosphere similar to that produced by the carburizers. 2) The reduction of temperature during pouring is only possible when the metal is sufficiently over-heated. However, in investment casting the decrease in temperature would affect the casting process. Therefore, lowering of the temperature of the mold is only a measure to reduce but not to eliminate oxidation and decarburization of the metal. It may be effectively applied in casting of thick-walled products. 3) The effect of rapid cooling on oxidation and decarburization processes was studied by removing the castings from the molds after 10, 20, 60 minutes and 24 hours after pouring. After the castings were shaken out they dropped from 1 m onto a metal plate. The tabulated results show that decarburization cannot be entirely eliminated. After heat treatment in furnaces with a protective atmosphere, the scale layer has to be removed by machining. Both the thickness of the decarburized layer and the scale layer can be re-

duced by sharply increasing the cooling rate in water. This is only possible if tests show that the process has no adverse effect on crack formation and warping. The microstructure of water-cooled castings after hardening must be improved by annealing or normalizing. There are 5 figures, 2 tables and 3 Soviet-bloc references.

Table 1:

Temperature of the mold, °C	Thickness of casting, mm	Total thickness of decarburized layer on both sides, mm	C-content in the metal chip obtained when boring the casting, %
800	3.0	0.35	0.41
20	3.0	0.15	0.43

S/121/62/000/010/002/005
D040/D112

AUTHOR: Ivanov, V.N.

TITLE: Mechanized grinding of intricate casting dies

PERIODICAL: Stanki i instrument, no. 10, 1962, 8-12

TEXT: On the basis of existing universal machine tools, special grinding machines have been developed for finishing intricate work, especially the components of die-casting dies for rectangular electron-beam tubes. A detailed description is given of the equipment and processes used for grinding the following components of the die sets: the rectangular screen die with its spherical bottom, the punch and frame, and the tapered portions of the die set for the tapered section of the tube. The mechanized grinding has replaced manual grinding and raised the work productivity by 5 times. The process is a combination of copy grinding with a roller tracer, grinding without a tracer, and profile grinding. The kinematics are expounded and illustrated. The wear of the grinding wheel in the process is compensated. Investigations are in progress to determine the optimum grinding conditions. There are 7 figures.

Card 1/1

BELYAYEV, V.N., dots., kand. tekhn.nauk; BOGATYREV, I.S., kand. tekhn. nauk; BULANZHE, A.V., dots.; VYBORNOV, P.V., st. prepod.; GADOLIN, V.L., dots., kand. tekhn. nauk; GOFMAN, E.I., dots.; DROZDOV, N.A., dots., kand. tekhn.nauk; ZAYTSEVA, L.I., inzh.; IVANOV, V.N., dots., kand. tekhn. nauk; KOROVIN, B.I., dots., kand. tekhn. nauk; LUKIN, V.I., dots., kand. tekhn.nauk; MORIN, I.S., dots., kand. tekhn. nauk; OGRINCHUK, I.A., inzh.; PALOCHKINA, N.V., inzh.; POLYAKOV, D.G., dots.; PARGIN, D.P., kand. tekhn.nauk[deceased]; RASPOPOV, A.G., st. prepod.; RESHETOV, D.N., prof., doktor tekhn. nauk; KASPEROVICH, N.S., inzh., red.; TIKHANOV, A.Ya., tekhn. red.

[Machine parts; atlas of designs] Detali mashin; atlas konstruktsii. Izd.2., perer. i dop. Moskva, Mashgiz, 1963.363 p. (MIRA 16:12)

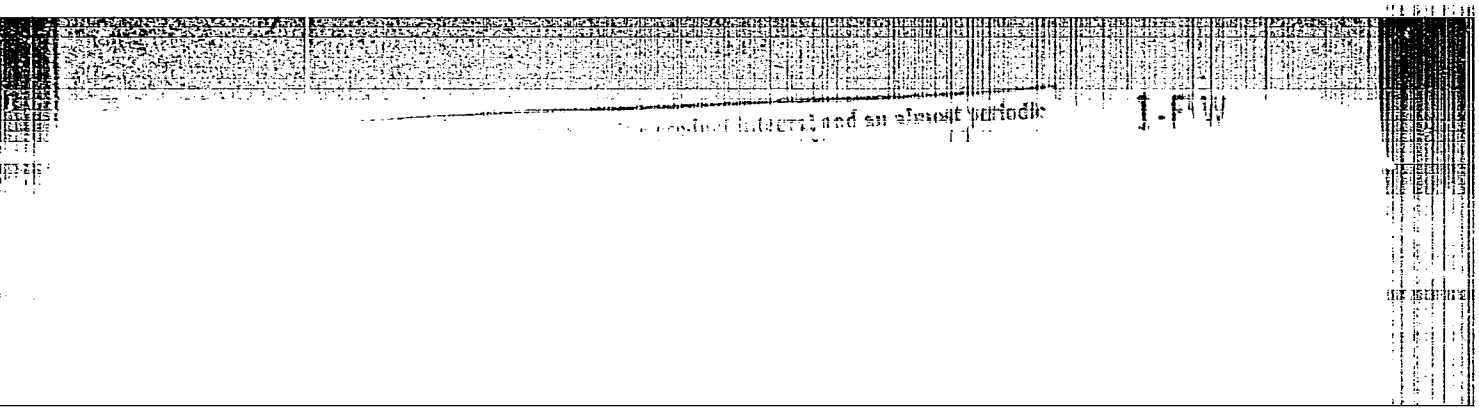
1. Kollektiv kafedry "Detali mashin" Moskovskogo vysshego tekhnicheskogo uchilishcha im. Baumana (for all except Kasperovich, Tikhanov).

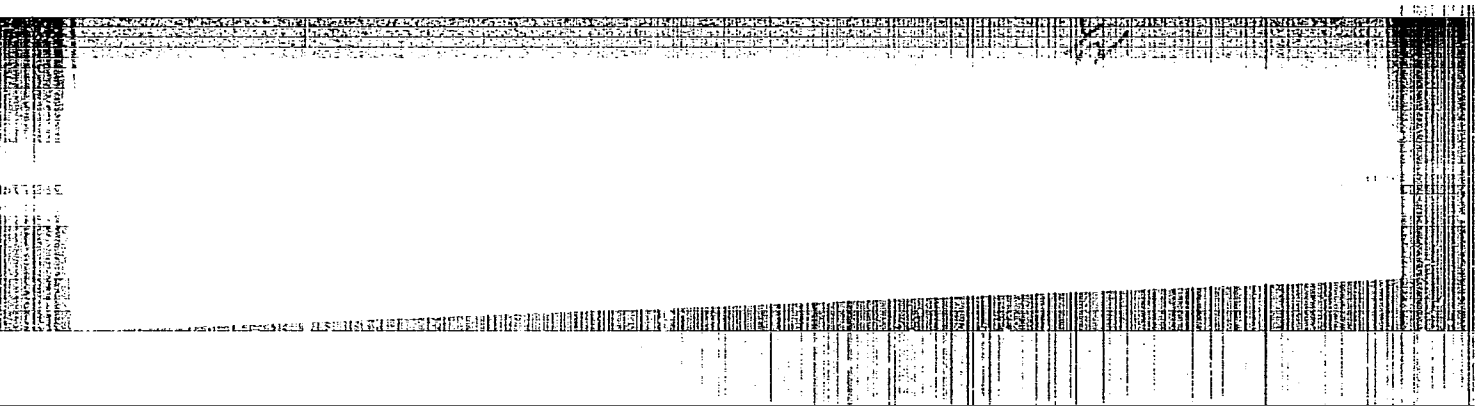
(Machinery--Design and construction)

IVANOV, V.N.

IVANOV, V.N. "The Spectral Theory of Systems of Ordinary Differential Equations with almost Periodic Coefficients." Min Higher Education USSR. Saratov State U imeni N.G. Chernyshevskiy. Saratov, 1956. (Dissertation for the Degree of Candidate in Physicomathamatical Science)

So: Knizhnaya Letopis', No. 18, 1956





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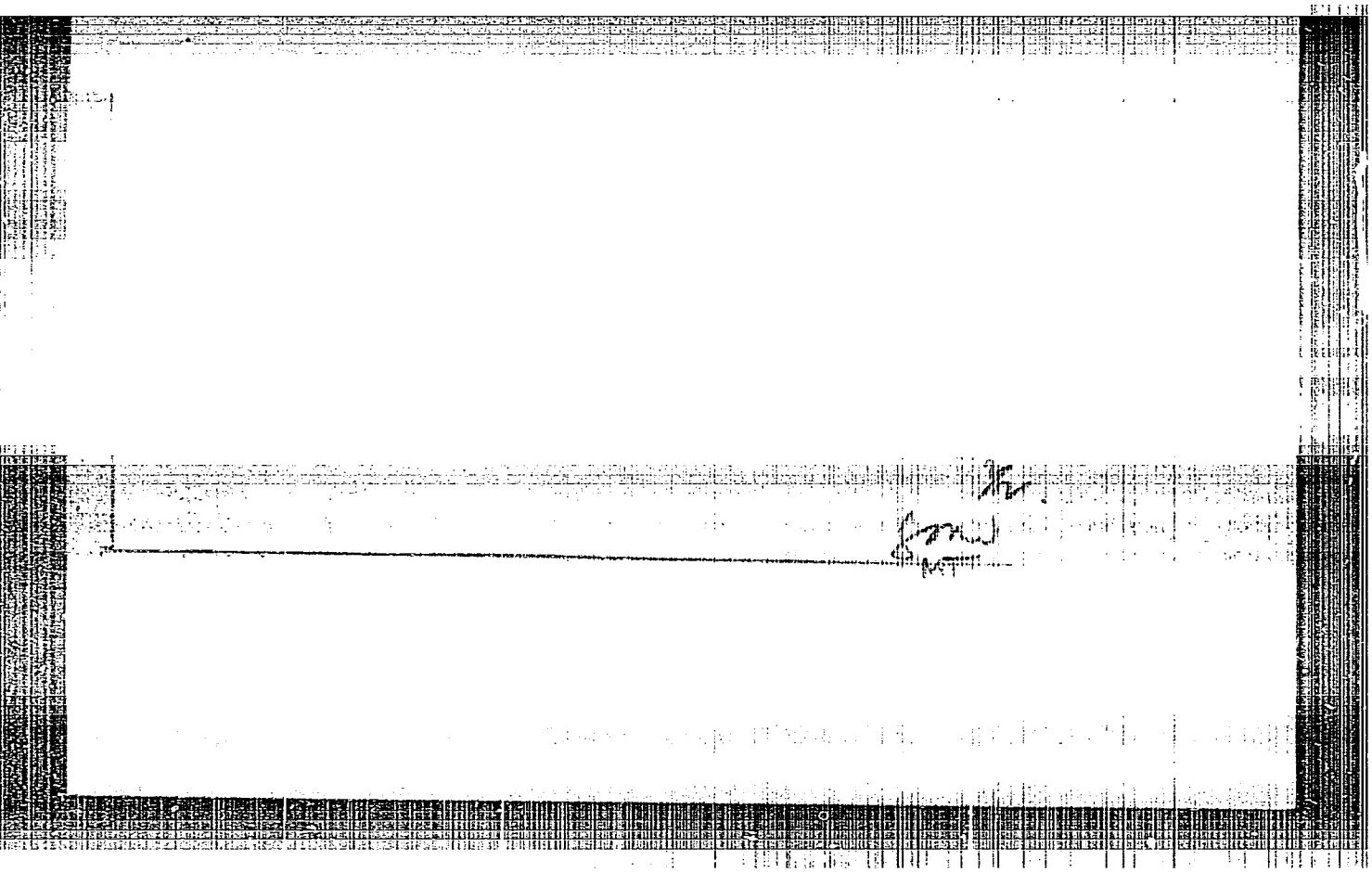

IVANOV, V.N.

Separating exponential factors from integral matrices of almost periodic systems. Usp.mat.nauk 13 no.2:181-188 Mr-Ap '58. (MIRA 11:4)

(Matrices) (Functions, Periodic)

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S/044/60/000/009/011/021
C111/C222

AUTHOR: Ivanov, V.N.

TITLE: On Almost Periodic Solutions of Linear and Nonlinear Systems

PERIODICAL: Referativnyy zhurnal. Matematika, 1960, No.9, p.75, Abstract No.10298. Tr.Saratovsk.in-ta mekhaniz.s.kh.,1959, vyp.14, pp.170-183

TEXT: The author investigates the form of the solutions and the conditions for the existence of almost periodic solutions for the system of linear differential equations $dy/dt = P(t)y + f(t)$, where $P(t)$ is an almost periodic $n \times n$ matrix and $f(t)$ is an almost periodic vector function. Methods of the analytic theory of differential equations are used for the proofs. For the nonlinear system

$$\sum_{k=1}^{n} p_{sk}(t)x_k + \sum_{m_1+\ldots+m_n>1} p_s^{(m_1,\ldots,m_n)}(t)x_1^{m_1}\ldots x_n^{m_n} \qquad (s=1,\ldots,n)$$

with almost periodic coefficients the author gives necessary and sufficient conditions for the existence of an almost periodic solution

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IVANOV, V.N.

13.2000

S/024/60/000/04/008/013
E140/E463 82212

AUTHOR: Ivanov, V.N. (Leningrad)

TITLE: Determination of Partial Derivatives of Functions of Many Variables in Automatic Control Systems

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1960, No.4, pp.130-136

TEXT: Two methods have been described in the literature for finding partial derivatives: synchronous detection and differentiation with respect to time. These methods have severe restrictions. In the present article a more general method is sought, suitable for self-optimizing systems and the restrictions placed by this method on the structure of the control system and the character of the external signals determined. After preliminary analysis of the conditions under which partial derivatives can be determined, three methods are discussed: the method of the Gramm determinant, the Wronskian, and a "discrete method", constituting an extension of the process of differentiation with respect to time and suitable for physical realization in pulse or digital devices and analogue circuits with delay elements. The conditions for determining the values of

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L 17873-66 EWT(1)/FCC GW

ACC NR: AP6007790 SOURCE CODE: UR/0050/66/000/003/0049/0053

AUTHOR: Ivanov, V. N.; Burakov, Yu. B.

ORG: none

TITLE: Investigation of atmospheric turbulence with an acoustic anemometer

SOURCE: Meteorologiya i gidrologiya, no. 3, 1966, 49-53

TOPIC TAGS: meteorology, anemometer, acoustic anemometer, meteorologic instrument, meteorologic tower, atmospheric turbulence, micrometeorology

ABSTRACT: A detailed description is given of the recently developed acoustic anemometer installed on the high meteorological tower of the Institute of Applied Geophysics. In order to carry out stationary measurements of wind-velocity fluctuations, the usual capacitor-type transducers were replaced by lead zirconate-titanate ceramic piezoelectric elements. The design of the ultrasonic receiver is described and shown in a diagram in the original article. The sensor is made in the form of a pressure plate with ultrasonic receivers arranged like a cross with the radiator in the center. A circuit diagram of the anemometer is given, and the amplifier and the phasemeter are described in considerable detail in the original article. The vertical and longitudinal components of the wind velocity can be measured by two and three scales, respectively. The time constant of the anemometer (0.05 sec for a wind velocity of 10 m/sec) permits measurements of almost the entire energy-bearing part of the spec-

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L 17873-66

ACC NR: AP6007790

trum, except for the layer immediately adjacent to the ground. The sensor is installed on a boom on the second balcony of the tower, at a height of 50 m. Measurements of the turbulent energy of the vertical and longitudinal components of wind-velocity fluctuations are automated by an analog system (which is described with a block diagram in the original article). The anemometer has been installed for six months and was out of commission only once in that time. Some observational results are presented in the original article. Orig. art. has: 5 figures. [EO]

SUB CODE: 04/ SUBM DATE: 14Jun65/ ORIG REF: 004/ OTH REF: 001/ ATD PRESS: 4208

Card 2/2 TS

IVANOV, V.N.

USSR / Radiophysics. Statistical Phenomena in Radiophysics. I-2

Abs Jour : Ref Zhur - Fizika, No 5, 1957, No 12422

Author : Ivanov, V.N.

Inst : Moscow State University, USSR

Title : Investigation of Noise with the Aid of a Cathode Ray Tube.

Orig Pub : Vestn. Mosk. un-ta, 1956, No 6, 47-56

Abstract : Description of a method that permits the use of an ic cathode-ray tube for experimentally determining the one-dimensional or two-dimensional probability distribution density of stationary random processes. The method consists of applying electrical signals, corresponding to the investigated processes, to the plates of the tube, and

Card : 1/2

IVANOV, V.N.

Use of magnetic amplifiers for multiplication of two signals. Vest. Mosk. un. Ser. mat., mekh., astron., fiz. khim., 12 no.5: 97-100 '57. (MIRA 11:9)

1.Kafedra fiziki morya i vod sushi Moskovskogo gosudarstvennogo universiteta.

(Magnetic amplifiers)

9(3)

AUTHORS: Ivanov, V.N., and Akopyan, I.G.

SOV/162-58-3-2/26

TITLE: The Determination of Statistical Characteristics of Random Processes by Means of an Electron-Beam Tube (Opredeleniye statisticheskikh kharakteristik sluchaynykh protsessov s pomoshch'yu elektronno-lucheвoy trubki)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Radiotekhnika i elektronika, 1958, Nr 3, pp 13-19 (USSR)

ABSTRACT: The author explains a simple method for measuring the correlation factor and other moments of static random processes by means of an electron beam tube. A similar method was already described by L.W. Orr [Ref 1] and A. Moles [Ref 2]. Measuring the correlation factor may be simplified by using parameters of the laws of distribution which may be easily determined. This method is based on the parameters of one-dimensional laws of distribution, which are suitable for arbitrary static random processes. The application of the electron beam tube permits obtaining

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the statistic characteristic of random processes in a simple manner, while other methods require complicated equipment for the same purpose, for example, for measuring the FM signal phase fluctuation. The method was tested experimentally and figure 2 shows the test arrangement. The experimental apparatus consists of one 10-75 kc noise generator, one 0-20 microsecond delay line, one phase inverter, one summator, one oscillograph, one sensitive photocell FSK-1 and one microammeter. The oscillograph has one-dimensional random scanning and is used in connection with an optical wedge. For establishing the accuracy of the method, additional investigations are necessary; however, according to results available at the present time, it may be predicted that the method will be applicable under laboratory conditions in many practical cases. There are 2 dia-

Ivanov, V.N.

49-58-3-16/19

AUTHORS: Kolesnikov, A.G., Panteleyev, N.A., Pyrkin, Yu.G., Petrov, V.P., and Ivanov, V.N.

TITLE: Apparatus and Methods of Measuring Micro-Pulsations of Temperature and Flow-Rate in the Sea (Apparatura i metodika registratsii turbulentnykh mikropul'satsiy temperatury i skorosti techeniya v more)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1958, Nr 3, pp 405-413 (USSR)

ABSTRACT: The instruments usually employed in measuring temperature, etc., in the sea have so long a period that they only measure averages. For the study of turbulent processes (e.g., turbulent heat flow, viscosity, etc.) it is necessary to have instruments with a short enough period. Temperature measurement is usually carried out either with a thermocouple or a resistance thermometer. The former measures the difference between the actual and the average temperature, whilst the latter measures also the actual temperature. The authors describe experiments of Urick and Searfoss (1948), Liebermann (1951), Kontoboytseva (1958) and English (1953) on temperature measurements, and ones by Bowden and Fairbairn (1952, 1956) and Obukhov (1951) on rate-of-flow measurements. The authors then discuss the basis of a new apparatus. The

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Apparatus and Methods of Measuring Micro-Pulsations of Temperature and Flow-Rate in the Sea.

time constant must be less than 0.1 sec for the whole apparatus. The accuracy of measurement of temperature in a sea where the surface is ice-free must be ~0.001-0.005°C; if ice is present the required accuracy goes up to 0.0001°C. The accuracy of velocity measurements must be not less than 2-5 mm/sec for an ice-free sea and not less than 0.1 mm/sec for a sea shielded from wind effects by ice. To obtain correct recordings with the required accuracy, the whole apparatus must be stationary. The authors now describe their actual apparatus. The meter consists of measuring devices at two different levels, a distributing and balancing network, an amplifier and an oscillograph. The measuring device at the upper level has three constituents: for measuring true velocity, true temperature, and the modulus of the velocity vector and the vertical component of the velocity vector. At the lower level, true velocity and true temperature are measured. Hence the meter records simultaneously: average temperature, the gradient of the average temperature; temperature pulsations average velocity and the

Apparatus and Methods of Measuring Micro-Pulsations of Temperature and Flow-Rate in the Sea.

gradient of the average velocity, pulsations of the modulus of the velocity vector and pulsations of its vertical component. Velocity signals go straight to the oscillograph; whilst temperature signals go to the oscillograph via a Wheatstone bridge and an amplifier. Power is supplied by the constant current from an accumulator. Temperature measurements were carried out with a thermistor with a temperature coefficient of resistance of 3-4% and a period of 0.08 sec. This was placed in one arm of the Wheatstone bridge. The power supplied to the thermistor was so chosen that the desired accuracy of 0.001°C could be obtained. Small deviations from the average velocity give diminished thermistor readings if the electric current is diminished or the average velocity increased. The device for measuring the average flow velocity consists of a 0.1 mm diameter, 28 mm long platinum wire, which is included in a bridge system. The wire is stretched perpendicular to the stream flow. Measurements are made at a constant current of 1-5 amps depending on the velocity. The device for measuring the modulus of the velocity vector and of the vertical component has two platinum wires in the bridge system. They are set at right

Apparatus and Methods of Measuring Micro-Pulsations of Temperature and Flow-Rate in the Sea.

angles to each other; their bisector is in the direction of the current and lies in the vertical plane. Vertical components of flow are measured by the resultant asymmetry of the system with respect to the flow. The meter altogether consists of two parts, both of which are attached to different parts of a steel cable at a vertical distance apart of from 0.5 to 2.0 m. The basic part (which can move freely round a vertical axis) is at the top. A vane keeps the apparatus oriented into the current. The measuring elements are placed at the front to reduce the effect of disturbance. All but 5-6 mm of the thermistor are enclosed in an ebony casing from which leads run back through a tube to the centre of the apparatus. A lead counterweight is employed to keep the meter horizontal. The measuring elements are protected from mechanical damage by a wire grid. The temperature measurer was graduated in the interval 5.0-30.0°C with a Beckmann thermometer for different currents in the thermistor. The velocity measurer was graduated in the range 0-50 cm/sec.

49-58-3-16/19

Apparatus and Methods of Measuring Micro-Pulsations of Temperature and Flow-Rate in the Sea.

The instrument is let down from a winch. After it has been kept at the right depth for 3-5 minutes the oscillograph is switched on and measurements are made. The authors give examples of oscillograms obtained and their interpretation. They assert that the meter seems well adapted for measurements on turbulence. There are 11 figures and 7 references, of which 5 are English and 2 Russian.

ASSOCIATION: Moscow State University imeni M.V. Lomonosov (Moskovskiy gosudarstvennyy yniversitet im. M.V.Lomonosova)

SUBMITTED: March 19, 1957.

AVAILABLE: Library of Congress.

Card 5/5

IVANOV, V.N.; ORDANOVICH, A.Ye.; CHIGRAKOV, K.I.

Investigation of transducers for the measurement of low flow speeds under natural conditions. Nauch.dokl.vys.shkoly; elektromekh. i avtom. no.1:156-164 '59. (MIRA 12:11)

1. Rekomendovana kafedroy fiziki morya i vod sushi Moskovskogo gosuniversiteta.

(Anemometer)

S/055/59/000/06/17/027
B006/B005

10.4000

AUTHORS: Kolesnikov, A. G., Ivanov, V. N.

TITLE: A Correlometer for Investigating the Structure of Turbulence of Natural Water- and Air Flows

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1959, No. 6, pp. 146 - 149

TEXT: To solve problems of turbulent flows it is necessary to know the statistical characteristics of the fields(correlation coefficient, correlation- and structural functions, temperature, concentration, etc). Two types of so-called correlometers, automatically working devices, are used to record these characteristics. One type performs an automatic evaluation of the oscillograms, the other type an automatic computation of the required characteristics without a previous recording of field fluctuations. No standard device of the latter type is produced in industry at present. A correlometer designed for automatic computation of statistical characteristics of turbulent fields in water- and air flows under natural conditions was worked out in 1957-1958 at the kafedra fiziki morya i vod sushi fizicheskogo fakul'teta MGU (Chair of Physics of the Sea and

L 15167-63 BDS

ACCESSION NR: AR3003346 S/0058/63/000/005/H016/H016

SOURCE: RZh. Fizika, Abs. 5Zh95 46

AUTHOR: Ivanov, V. N.

TITLE: Engineering method of calculating the slow wave system of a platinotron

CITED SOURCE: Vopr. elektroniki i elektrodinamiki sverkhvysokikh chastot. Taganrog, 1962, 71-76

TOPIC TAGS: slow wave system, platinotron, strap inductance, dispersion characteristic

TRANSLATION: It is proposed to use the equivalent-circuit method for the calculation of the dispersion characteristics of the slow-wave systems of a platinotron with sector-shaped resonators. Unlike the previously published papers, a more rigorous account is taken here of the inductance of the straps and the anode-cathode capacitance. An expression is derived for the characteristic resistance of the system and the wavelength λ in the case of arbitrary phase shift per cell of the system. A procedure is described for the calculation of λ and of the parameters of the equivalent circuit. It is indicated that the results of the calculations of the

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ACCESSION NR: AR3003346

dispersion characteristics by means of the presented formulas are in satisfactory agreement with the experimental curves (the discrepancy is ~10 per cent). G. Korostelev

DATE ACQ: 17Jun63 SUB CODE: PH ENCL: 00

Card 2/2

9.9000

AUTHOR: Ivanov, V.N. SOV/141-2-3-12/26

TITLE: Waveguide Properties of a Multi-row Interdigital System

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1959, Vol 2, Nr 3, pp 420 - 423 (USSR)

ABSTRACT: The dispersion equation is solved by successive approximation. Changing from slatted to rodded construction increases the effectiveness of the interaction between the electron beam and the field of the delaying system. The dispersion characteristic and the thermal dissipation properties are hardly altered. In the usual form of construction the field falls off exponentially with distance from the surface of the "comb" and the size of the beam must therefore be restricted. The field between the slats follows a cosine law. The effectiveness of interaction can be increased by slotting the slats and allowing the beam to penetrate more intimately. Figure 1 shows a multi-row interdigital arrangement which is assumed to conduct ideally in the direction of the rods (y-axis) and to be non-conducting in the orthogonal direction. The system is supposed to be infinite in the x- and z-directions.

Waveguide Properties of a Multi-row Interdigital System

Maxwell's equations may be written for two regions, $y < 0$, $0 < x < d$ (Eq (1)) and $y > 0$ (Eq 2). From the condition of field continuity in the $y = 0$ plane, three equations are derived and after eliminating the constant A and multiplying the remaining two equations by $\sin(m\pi x/d)$, an infinite system of homogeneous equations in B_n is found. The solvability conditions (null determinant) is Eq (3). This was approximated by (1 x 1), (3 x 3) and (5 x 5) arrays and successive solutions were found. It is necessary to know the value of k and this was evaluated (to zero approximation) from Eq (6). In the case of co-phasal excitation, the determinant is modified so that only terms with $n \geq 0$ and m odd remain. In this condition, the passband has maximum width and a numerical solution was found. The results are shown in Figure 2, where k/β, the ratio of the phase velocity of the wave in the z-direction to the velocity of light in vacuo, is plotted against ka, where $k = \omega\sqrt{\varepsilon\mu}$ and a is the structure-width in Figure 1. Values of d/a, the shape

Card 2/3

9,1300

AUTHOR: Ivanov, V.N.

SOV/141-2-3-25/26

TITLE: The Possible Waves in a System of Parallel Anisotropically Conducting Planes

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1959, Vol 2, Nr 3, pp 510 - 512 (USSR)

ABSTRACT: The system considered consists of an infinite number of parallel planes spaced at a distance d from each other. The planes are ideally conducting in the direction y and non-conducting in the direction z. For the purpose of analysis, it is assumed that the plane situated at $x = 0$ has the index zero and the indices increase with increasing x. The only component of the vector potential $A_y^{(n)}$ produced by the current in the n-th plane is given by:

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The Possible Waves in a System of Parallel Anisotropically Conducting Planes

$$A_y^{(n)} = \frac{\mu}{4\pi} \int_{-\infty}^{+\infty} f_n(\eta)\, d\eta \int_{-\infty}^{+\infty} \frac{\exp\left[-i\beta\zeta\right] \exp\left[-ik\sqrt{(x-nd)^2 + (y-\eta)^2 + (z-\zeta)^2}\right]}{\sqrt{(x-nd)^2 + (y-\eta)^2 + (z-\zeta)^2}}\, d\zeta \qquad (1)$$

where $k = \omega\sqrt{\varepsilon\mu}$, where ε and μ are the permittivity and permeability of the medium, while $f_n(y)$ is the surface current density in the n-th plane. By integrating Eq (2) with respect to ζ, the component A_y of the vector potential is obtained. From this, it is possible to calculate the electric field E_y so that the current density can be found from the integral-differential expression given by Eq (2). In general form, this can be written as Eq (3). The solution of this is in the form:

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$$f(y) = C_s e^{iw_s y}$$

The Possible Waves in a System of Parallel Anisotropically Conducting Planes

where C_s are the constants which can be determined from the excitation conditions, while w_s represent the zeros of the functions $L(w)$, which is given by the last equation on p 511. From this, it follows that if in the direction z a wave propagates with a velocity lower than the velocity of light, the function $L(w)$ has two real zeros, $w = \pm k$. These correspond to non-damped waves of the TEM type. The function has also a set of imaginary zeros which correspond to damped waves of the TM type, propagating in the direction y.
There are 4 references, 1 of which is French and 3 are Soviet; 1 of the Soviet references is translated from English.

Card 3/4

AUTHOR: Ivanov, V.N. SOV/109-4-4-20/24

TITLE: On the ~~Theory of~~ a Stub-type Comb Structure (K teorii shtyrevoy grebenki)

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 4, pp 724 - 725 (USSR)

ABSTRACT: The structure considered is shown diagrammatically in Figure 1. For the purpose of analysis it is assumed that the stubs in this structure can be approximated by a surface which is ideally conducting in the direction of the axis y and non-conducting in the perpendicular direction. If the system is semi-infinite in the direction of the axis y , the only component of the vector potential is given by Eq (1), where f(y) is the surface density of the current while K_o is the modified Bessel function of the second kind. The current density can be expressed by Eq (2). The solution of this is in the form of Eq (3), where Φ is the probability integral. When $\gamma_y \geq 2$ the function f(y) can be expressed by Eq (4). The

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dispersion equation of the system is in the form:

$$k/\beta = \sin 2ka \qquad (6) .$$

This is plotted in Figure 4 for a structure having a = 10 cm and the diameters of the stubs of 3 mm. The coupling impedance of the structure (in the presence of a ribbon-like electron beam having a width a) is given by Eq (8). From the analysis it is concluded that the slope of the scattering curve, in the region of large delays, for the comb structure, is about twice greater than that for a plate-delay type structure; also, it is found that for large delays the field at the stubs becomes transverse.
There are 2 figures and 5 references, 4 of which are Soviet and 1 English. 1 Soviet reference is a translation from English.

On the Theory of a Stub-type Comb Structure SOV/109-4-4-20/24

ASSOCIATION: Rostovskiy-na-Donu gosudarstvennyy universitet
(Rostov-na-Donu State University)

SUBMITTED: March 20, 1958

Card 3/3

IVANOV, V. N., Cand Phys-Math Sci (diss) -- "Investigation of multi-row decelerator systems". Rostov na Donu, 1960. 11 pp (Min Higher Educ USSR, Rostov State U), 150 copies (KL, No 14, 1960, 125)

16.4900,9.1400

77775
SOV/109-5-2-7/26

AUTHOR: Ivanov, V. N.

TITLE: Variation Method of Calculating a Multiconductor Line

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol 5, Nr 2, pp 224-228 (USSR)

ABSTRACT: A variation method is given for solution of the problem of the basic wave in a periodic multiconductor line. Determined function, taking a stationary value for the potential. As an example, the problem of a multirow multiconductor line having infinitely thin strip conductors is analyzed. Introduction: For calculating the stub delay system by the method of theory of multiconductor lines, the field of the basic TEM-wave must be calculated first for a regular multiconductor line, some segments of which, together with inhomogeneities, are a stub-type delay system . Only approximate solutions are possible, but an exact solution is possible only for a one-row line with strip or elliptical conductors. The known approximate solutions for other types of conductors are inexact and therefore the

Card 1/10

A pneumatic vibrator with stable... S/147/61/000/004/019/021
E194/E135

ASSOCIATION: Kafedra konstruktsii aviadvigateley, Kuybyshevskiy aviatsionnyy institut (Department of Aviation Engine Design, Kuybyshev Aviation Institute)

SUBMITTED: February 13, 1961

Card 3/3

IVANOV, V.P.

BOGATSKIY, Yu.F.; MACHULA, V.I.; IVANOV, V.P.

Cleaning filter press plates and frames by a chemical method.
Sakh.prom. 28 no.4:30 '54. (MLRA 7:7)

1. Pivnenkovskiy sakharnyy zavod.
(Sugar machinery)

Ivanov, V.F.

3057. BRIQUETTING OF PEAT WITHOUT THERMAL DRYING. Ivanov, V.F., and Mikhailova, M.Z. (Trud. Mosk. Torf. Inst. (Proc. Moscow Peat Inst.), 1953, (19), (2), 127-135; abstr. in Ref. Zh. Khim. (Ref. J. Chem., Moscow), 1955, (19), 44056). Laboratory and industrial tests have established that naturally dried peat, i.e. pneumo-peat, warmed milled peat and fines from sod peat can be briquetted without thermal drying at a maximum moisture content of 18 to 25% and size of 10 mm. The strength and bulk density are as good as those obtained after thermal drying. To increase the water resistance of the briquette the temperature of the matrix used for briquetting should be at least 150°C. Spontaneous heating of the peat improves the quality of the briquette. Diagrams are given for the briquetting of pneumo-peat and fines in mobile plants, for use at small peat undertakings and producer gas plants.

IVANOV, V.P.; KOLDOBSKIY, V.L.

Materials on the history of the peat industry in Russia in the first half of the 19th century. Torf.prom. 36 no.2:25-27 '59. (MIRA 12:4)

1. Glavnoye arkhivnoye upravleniye.
(Russia--Peat industry)

IVANOV, V.P.

Repair of traction motor cooling fans. Elek.i tepl.tiaga. 4 no.6:5-6 Je '60. (MIRA 13:8)

1. Starshiy master zagotovitel'nogo tsekha depo Kochetovka Yugo-Vostochnoy dorogi.
(Electric railway motors--Cooling)

IVANOV, V.P.

Suggestions of the efficiency experts introduced at the railroad repair shop of Kochetovka. Elek. i tepl. tiaga no.1:30-31 Ja '61. (MIRA 14:3)

1. Starshiy master zagotovitel'nogo tsekha depo Kochetovka Yugo-Vostochnoy dorogi.
(Kochetovka—Railroads—Repair shops)

FARAFONOV, A.V., inzh.; IVANOV, V.P., inzh.

How to prevent faulty switching operation of the AB-2/3 and AB-2/4 feeder switches. Elek. i tepl. tiaga 6 no.10:15-16 O '62. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta Ministerstva putey soobshcheniya.
(Electric railroads--Electric equipment)
(Electric cutouts)

IVANOV, V.P., aspirant

Investigating the wear of the friction pair of the TEP60 diesel locomotive engine. Vest.TSNII MPS 22 no.6:32-35 '63. (MIRA 16:10)

IVANOV, Valentin Pavlovich; NOVITCHENKO, K.M., nauchnyy red.; TELINGATER, L.A., red.; NESMYSLOVA, L.M., tekhn. red.; DORODNOVA, L.A., tekhn. red.

[Materials used for painting, wallpaper hanging and glass work] Materialovedenie dlia maliarov. Moskva, Vses. uchebno-pedagog. izd-vo Proftekhizdat, 1961. 114 p. (MIRA 15:2)
(Painting, Industrial--Equipment and supplies)
(Paper hanging)

IVANOV, I.T., kand.tekhn.nauk; KHANIN, G.F., inzh.; DUMASHOV, Yu.F., inzh.; KOLODEY, A.P., inzh.; IVANOV, V.P., inzh.; VEKSLER, Z.Ya., inzh.; KRYUKOV, A.A., inzh.; SEMENENKO, V.A., inzh. VISHNEVETSKIY, I.M., inzh.; SHTREMEL', G.Kh., inzh.; SMIRNOVA, R.N., red. izd-va; LELYUKHIN, A.A., tekhn. red.

[Technical specifications for carrying out and inspecting general and special construction work during major repairs of residential buildings] Tekhnicheskie usloviia na proizvodstvo i priemku obshchestroitel'nykh i spetsial'nykh rabot pri kapital'nom remonte zhilykh domov. Izd.2., bez izmenenii. Utverzhdeny prikazom Ministerstva kommunal'nogo khoziaistva RSFSR ot 26 aprelia 1960 g. No.118 i soglasovany s Gosudarstvennym komitetom Soveta Ministrov SSSR po delam stroitel'stva. Moskva, Izd-vo M-va kommun.khoz.RSFSR, 1962. 326 p. (MIRA 15:8)

1. Russia (1917- R.S.F.S.R.) Ministerstvo kommunal'nogo khozyaystva.
(Apartment houses--Maintenance and repair)

MARSHAK, I.S.; VASIL'YEV, V.I.; MIRONOVA, A.I.; IVANOV, V.P.; VDOVCHENKO, R.G.

New pulse lamps. Usp.nauch.fot. 6:43-52 '59. (MIRA 13:6)
(Electric discharge lighting)

IVANOV, V.P.; VASSERMAN, A.L.; BUKAREVA, A.A.; ZHIL'TSOV, V.P.

Power supply for pulse lamps operating under conditions of high repetition rates of flash. Usp.nauch.fot. 6:62-63 '59. (MIRA 13:6)

(Photography, Flash light)
(Electric discharge lighting)

MORUCHKOV, Semen Antonovich; IVANOV, Vladimir Petrovich; DMITRIYEVA, S.I., red.; YUZBASHEV, V.G., red.; RAKITIN, I.T., tekhn. red.

[Through the work of millions]Trudom millionov. Moskva, Izd-vo "Znanie," 1962. 30 p. (Novoe v zhizni, nauke, tekhnile. I Seriia: Istoriia, no.1) (MIRA 16:1)
(Russia--Economic conditions)

IVANOV, V.P.; SHESTAKOV, I.M.

Separation of gold from pickling solutions. Zhur. prikl. khim. 34 no.5:1154-1155 My '61. (MIRA 16:8)

(Gold)

IVANOV, V. P.

5(2) SOV/32-25-9-13/53

AUTHORS: Rus'yanova, N. D., Kruglov, B. I., Sarancha, Ye. T., Ivanov, V. P., Orestova, V. A., Nikolayeva, N. A., Zel'tser, Ye. Yu., Nessonova, G. D., Turkovskaya, D. V., Boltunova, N. I.

TITLE: News in Brief

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 9, p 1069 (USSR)

ABSTRACT: N. D. Rus'yanova, Ural'skiy politekhnicheskiy institut (Urals Polytechnic Institute) recommends a polarographic method for the determination of acridine in the analysis of the matrix of anthracite resin. The method is based upon a relationship between the concentration of acridine and the height of the polarogram-wave, the half-wave potential of which lies at 0.79 v. The analysis was carried out on a polarograph of the construction UFAN with a mirror galvanometer M-21. The relative maximum error is given with ± 3.5% and an analysis time of 10-15 minutes.
B. I. Kruglov, Ye. T. Sarancha, and V. P. Ivanov, TsZL Lisichanskogo khimkombinata (Central Works Laboratory of the Lisichansk khimkombinat) describe a method for the radiometric determination of potassium (Ref 1) in a catalyst for the isobutanol synthesis. The investigations were carried out in a B-2 apparatus with a counter tube AS-2.

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V. A. Orestova, N. A. Nikolayeva, Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR (Institute of High-molecular Compounds of the Academy of Sciences, USSR) suggest a rapid method for the determination of sulphur in cation-exchange resins. It consists, in principle, in that the fine pulverized sample is burned in oxygen beside a platinum catalyst, and that combustion products are captured in a neutral hydrogen peroxide solution. The resulting sulphuric acid is titrated in the latter with a 0.01n NaOH solution.
Ye. Yu. Zel'tser, Nauchno-issledovatel'skiy institut elektropromyshlennosti (Scientific Research Institute of the Electrical Industry) describes a volumometric-complexometric method for the determination of nickel in alloys which are used for the production of permanent magnets on the basis of Fe-Ni-Al-Co-Cu. Ni is separated from the accompanying elements by a 1%-ammoniacal dimethyl glyoxim solution, Co being first transferred into the trivalent form and then titrated with Trilon B.

Card 2/3

G. D. Nessonova, D. V. Turkovskaya, N. I. Boltunova, Moskovskiy tekstil'nyy institut (Moscow Textile Institute) compared four gravimetric methods for the determination of silicon in common alkalins and silicon-organic silicates and found that the most exact results are obtained with the sulphuric acid method. There is 1 Soviet reference.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Urals Polytechnic Institute) TsZL Lisichanskogo khimkombinata (Central Works Laboratory of the Lisichansk Khimkombinat) Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR (Institute of High-molecular Compounds of the Academy of Sciences, USSR) Nauchno-issledovatel'skiy institut elektropromyshlennosti (Scientific Research Institute of the Electrical Industry) Moskovskiy tekstil'nyy institut (Moscow Textile Institute)

Card 3/3

KAZANSKIY, Nikolay Vasil'yevich; PROKOF'YEV, Vasiliy Ivanovich; IVANOV, V.P., red.; DOLGOVA, K.N., red. izd-va; KHENOKH, F.M., tekhn. red.

[Manual on safety measures for the demolition of buildings and structures] Pamiatka po tekhnike bezopasnosti pri razborke zdanii i sooruzhenii. Moskva, Izd-vo MKKh, 1963. 74 p. (MIRA 16:7)

(Building—Safety measures)

S/128/63/000/001/005/008
A004/A127

AUTHORS: Ivanov, V.P., Spasskiy, A.G.

TITLE: The effect of Al-oxides on the gas saturation and gassing processes in aluminum and Al-alloys

PERIODICAL: Liteynoye proizvodstvo, no. 1, 1963, 26 - 28

TEXT: Aluminum of the grades A00 (A00) and AB00 (AV00) and the Al-alloy grades AЛ 2 (AL2), AL9, AL7, AL12, AMг (AMg), AL8 and AЛ10B (AL10V), melted in electric and gas furnaces in graphite-chamotte crucibles were tested to find out the effect of Al-oxides on the gas-saturation and gassing processes, particularly with regard to hydrogen. In well-purified and refined melts no gas saturation could be effected. Pickling and mechanical cleaning of the surfaces of the initial material charges prior to melting results in a considerable reduction of the gas content of the melts in refining. The investigations carried out revealed that not only aluminum, but also Al-alloys possess a certain passivity with regard to gas saturation, if they are free from non-metallic impurities. An increased gas saturation is promoted by aluminum oxides, which have to be removed

The effect of Al-oxides on the gas saturation ....

by various methods. The solubility of hydrogen in aluminum not containing hydrogen inclusions amounts to 0.05 - 0.06 $cm^3/100$ g at 700° C, while this hydrogen solubility may increase by a factor of up to 20 in the presence of Al-oxides. The authors comment on the test results and point out that a most efficient means of eliminating oxide compounds containing hydrogens is the treatment of melts with chlorine-containing agents. There is 1 table.

Card 2/2

S/149/63/000/001/003/008
A005/A101

AUTHORS: Ivanov, V. P., Spasskiy, A. G.

TITLE: Refining of aluminum from oxides and gas

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, no. 1, 1963, 141 - 143

TEXT: The investigation was made for the purpose of studying the effect of overheating temperature and the cooling rate upon the refining of aluminum from oxide inclusions and gas, by chlorination. Grade A00 (A00) and AB000 (AV000) aluminum was used. Contamination of the alloys by oxides was performed by 1) melting of small initial Al bars and 2) reduction of silicon dioxide at 1,100°C. The heats were produced in electric furnaces. The overheating temperatures were: 750, 850 and 1,100°C at cooling rates as high as 5°C and 50°C per minute. Holding time at overheating temperatures was 10 minutes. Refining was made with dehydrated manganese chloride (0.3%) at 720 - 680°C. It was found that Al oxides are subjected to transformations during heating and cooling; this entails their different states. Melts contaminated with oxides by the

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S/149/63/000/001/008/008
A006/A101

Refining of aluminum from oxides and gas

melting of a fine, strongly oxidized charge, are well refined from oxides and gas by chlorination at 720 - 680°C, after cooling from overheating temperatures down to 850°C at 5°C and 50°C per minute. Aluminum oxides, independent of their quantitative content and production method, are eliminated from the melt during chlorination after cooling from overheating temperatures up to 1,100°C, at a rate as high as 5°C per minute. During chlorination, aluminum oxides are not eliminated from the melt, if the latter is cooled from the overheating temperature as high as 1,100°C, down to the refining temperature, at 50°C per minute. The aluminum oxides may be in an "active" state in respect to hydrogen and adsorb it from the solution by forming complex, type $(Al_2O_3)xH$, compounds. The elimination of such compounds entails degassing of the melt and its subsequent stability as to hydrogen absorption during water vapor blast or during holding in water vapor atmosphere. Changes in the state of Al oxides by overheating to 1,100°C and subsequent cooling from overheating temperature to below 790°C at 50°C per minute, cause "immunity" of the melts. This "immunity" in respect to gas absorption arises because the oxides obtained as a result of temperature processing of liquid metal, do not adsorb the hydrogen from the solution and do not form complex compounds of the $(Al_2O_3)xH$ type, i.e. these oxides are "passive"

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S/149/63/000/001/008/008
A006/A101

Refining of aluminum from oxides and gas

in respect to hydrogen.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys) Kafedra liteynogo proizvodstva (Department of Foundry Practice)

SUBMITTED: August 11, 1962

Card 3/3

S/054/63/004/001/020/022
B101/B215

AUTHORS: Parfenov, A. I., Shul'ts, M. M., Kochergina, N. N., Ivanov, V. P., Yevnina, S. B., Kalmykova, L. P., Ageyeva, Ye. D.

TITLE: Electrode properties and chemical stability of a number of multicomponent glasses

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 1, 1963, 162-166

TEXT: Lithium silicate glasses containing additions of Cs_2O, BaO, La_2O_3, TiO_2, ZrO_2, and ThO_2 were studied by plotting their E versus pH curves in alkaline media at 95 and 150°C in order to extend to strongly alkaline media, and to temperatures above 100°C, the applicability of glass electrodes for pH measurements. Results: Glasses containing up to 4% Cs_2O and 2-6% BaO have the widest H^+ function range in alkaline media at 95°C. Additions of TiO_2, ZrO_2, or ThO_2 up to 2% do not change

Card 1/2

Electrode properties and chemical ...

the upper limit of the H^+ function in alkali, but improve the electrode characteristics in a strongly acid medium at high temperatures. If these additions exceed 2%, the upper H^+ limit is shifted toward lower pH values. In 1 N NaOH at 150°C, the chemical stability of glasses was found to decrease at an increasing content of Cs_2O and BaO. The stability is increased by adding TiO_2, ZrO_2, and ThO_2, and decreased by raising the temperatures. The life of electrodes at 150°C was only 1/50 that observed at 95°C. There are 2 tables.

SUBMITTED: October 1962

IVANOV, V P.; VALEYEV, M.Kh.

Organizing operations for the rapid construction and installation of drilling rigs in the Tatar Oil Well Drilling Trust. Neft. khoz. 42 no. 5:17-24 My '64. (MIRA 17:5)

PETROV, Il'ya Vladimirovich, inzh. assistent; IVANOV, V.F., inzh. red.

[Practices of the organization of mortar preparation; materials of the Administration of the Mechanization Trust No.4 of the Moscow Mechanized Construction Trust No.5] Opyt organizatsii rastvornogo khozyaistva; po materialam Upravleniia mekhanizatsii No.4 tresta "Mosstroimekhanizatsiia-5" Moskva, Gosstroiizdat, 1963. 34 p. (MIRA 17:11)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. 2. Kafedra stroitel'nykh mashin Moskovskogo inzhenerno-stroitel'nogo instituta im. V.V.Kuybysheva (for Petrov).

L 15248-66 EWT(1) GW (N) SOURCE CODE: UR/0362/65/001/012/1310/1318

ACC NR: AP6001976

AUTHORS: Kolesnikov, A. G.; Panteleyev, N. A.; Ivanov, V. N.

ORG: Academy of Sciences, UkrSSR, Marine Hydrophysics Institute (Akademiya nauk UkrSSR, Morskoy gidrofizicheskiy institut)

TITLE: Experimental studies of the turbulent drag layer under a drifting ice pack

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 1, no. 12, 1965, 1310-1318

TOPIC TAGS: ice, turbulence meter, turbulent boundary layer effect, turbulent diffusion, turbulent flow, drag effect, energy dissipation, boundary layer turbulence, boundary layer structure / TM-1 turbulimeter

ABSTRACT: The turbulent layer of water dragged along by drifting ice was studied in the spring and summer of 1956 in the Arctic Ocean. The flow velocities were measured with a TM-1 turbulimeter mounted in a hole 100 m from the edge of a 1-km drifting ice pack known as "North Pole-4." The horizontal and vertical velocities were continuously recorded at various depths (z) beneath the ice.

UDC: 551.465.15

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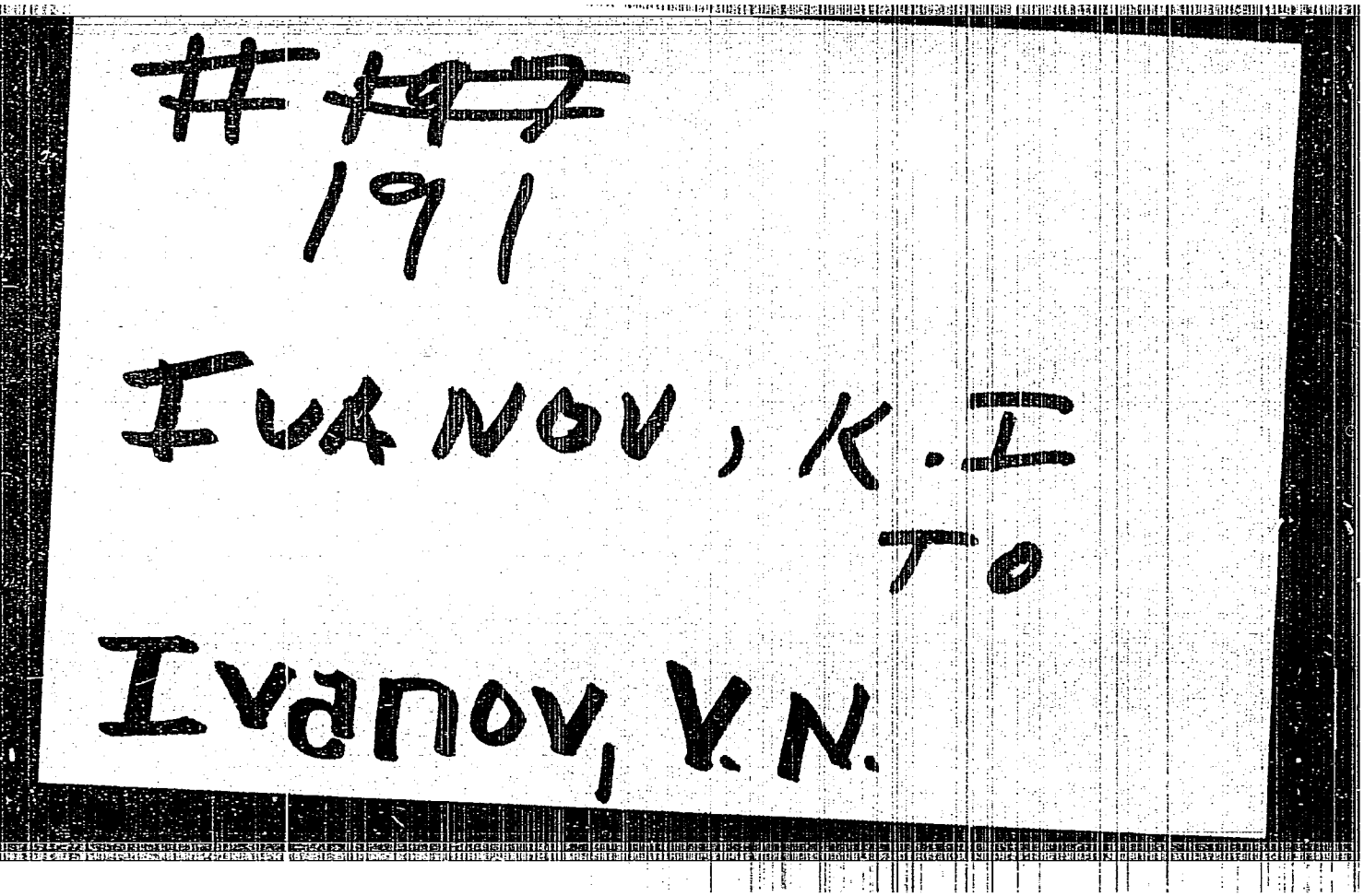
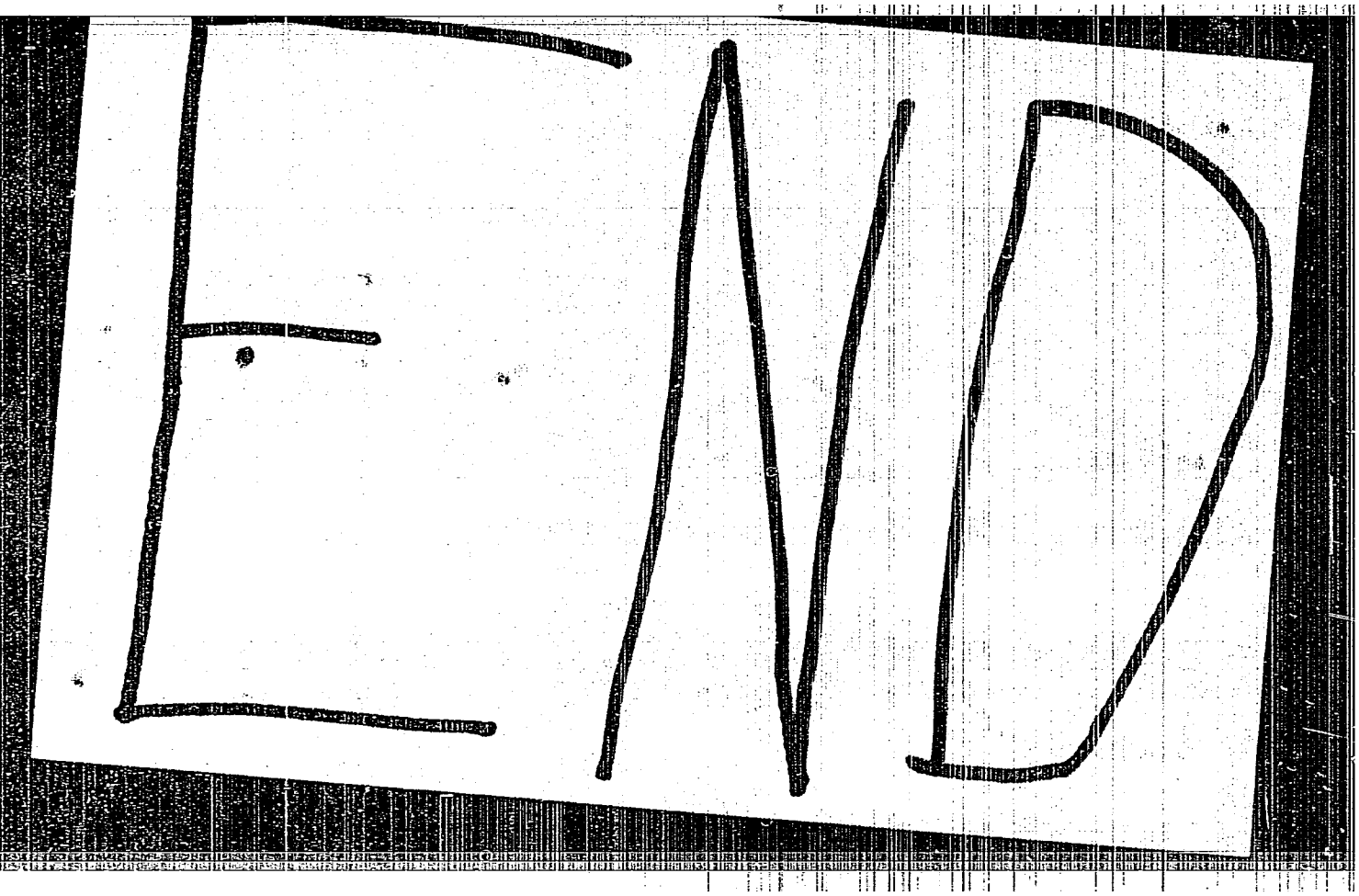
L 15248-66
ACC NR: AP6001976

At $z \geq \delta$ (which is a function of drift speeds) turbulence has no effect. The profile of the average flow velocity vs z, plotted in relative coordinates, showed the same logarithmic curve for all series of measurements. Tangential friction stress was strongly dependent on the drift speed, and rapidly increased with decreasing z. The maximum values of this quantity were not obtained because the measurements were not made immediately adjacent to ice. The turbulent structure was compared to the turbulent structure in a uniform boundary layer along a wall. Although similar, the turbulence decreased more rapidly under the ice (at $z = 0$, 20%; at $z = 1/3\delta$, 1—3%). The energy generation under the ice fell off more rapidly because of a different generation mechanism, rougher surface, etc. The energy dissipation also fell off more sharply. This was attributed to the nonuniform density of the water caused by the fresh water furnished by the melting ice. The authors thank V. P. Petrov and Yu. G. Pyrkin for their assistance in the measurements and analysis. Orig. art. has: 8 figures, 1 table, and 4 formulas.

SUB CODE: 08/ SUBM DATE: 20Jan65/ ORIG REF: 003/ OTH REF: 001

Card 2/2 BC





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